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10/657,780	09/08/2003	Henry Krigmont		1354

7590 06/23/2004  
Clifford Kraft  
320 Robin Hill Dr.  
Naperville, IL 60540

EXAMINER

CHIESA, RICHARD L

ART UNIT PAPER NUMBER

1724

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/657,780

Applicant(s)

H. V. KRIGMONT

Examiner

RICHARD L. CHIESA

Group Art Unit

1724

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-31 is/are pending in the application.  
Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-31 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☒ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
  - ☐ All ☐ Some\* ☐ None of the:
    - ☐ Certified copies of the priority documents have been received.
    - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
    - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_ ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other \_\_\_\_\_

Office Action Summary

SN 10/657,780

## DETAILED ACTION

### *Drawings*

- (1.) The drawings filed on September 8, 2003 are accepted by the examiner.

### *Specification*

- (2.) The specification is objected to because it does not indicate that the two parent cases serial numbers 10/353,155 and 10/400,324 are now abandoned. Correction and/or clarification is required.

### *Claim Rejections – 35 USC 103*

- (3.) The following is a quotation of 35 USC 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- (4.) Claims 1-4, 16-18, 20, 21, 25, 26, 29, and 30 are rejected under 35 USC 103(a) as being unpatentable over Miller ('818) in view of Miller ('317). Miller ('818) discloses a multi-stage collector apparatus and method (note Figs. 1-12) with two parallel plate

electrodes 26D forming alternating wide and narrow zones, barrier filter 24D, and corona generating electrodes 28D (note col. 7, lines 27-67) substantially as claimed. It would appear that Miller ('818) may not explicitly mention that the discharge electrodes generate a non-uniform electric field and are at the same electrical potential as the barrier filter. In any case, Miller ('317) teaches the well-known use of a discharge electrode generating a non-uniform electric field and at the same potential of the barrier filter in a multi-stage collector apparatus and method (note ref. num. 54, Figs. 13-26; col. 5, lines 14-55; col. 9, lines 1-13; col. 12, lines 14-23) for the purpose of ensuring maximum removal of unwanted particulates. Consequently, it would have been readily obvious to one of ordinary skill in the art to employ a discharge electrode generating a non-uniform electric field and at the same potential as the barrier filter in the Miller ('818) multi-stage collector apparatus and method in order to facilitate the removal of unwanted particulates as taught by Miller ('317).

(5.) Claims 5, 6, 15, 24, and 31 are rejected under 35 USC 103(a) as being unpatentable over the prior art as applied to claim 1 above, and further in view of Reed et al. The prior art as described above discloses a multi-stage collector apparatus and method substantially as claimed with the possible exception of a discharge electrode connected to a dielectric barrier filter having an inner conductive surface. Reed et al (note Figs. 1-8, col. 3, lines 41-65; col. 8, lines 19-66) teach the use of a discharge electrode connected to a dielectric barrier filter with a conductive inner surface in a multi-stage collector apparatus and method for the purpose of ensuring maximum gas cleaning. Therefore, it would have been obvious to one having ordinary skill in the art to employ a

discharge element connected to a dielectric barrier filter with a conductive inner surface of the prior art multi-stage collector apparatus and method in order to facilitate gas purification as taught by Reed et al.

(6.) Claims 7-9 are rejected under 35 USC 103(a) as being unpatentable over the prior art as applied to claim 1 above, and further in view of Rasmussen. The prior art as described above discloses a multi-stage collector apparatus substantially as claimed with the apparent exception of metal and halogen recycling. Rasmussen (note col. 1, line 5 to col. 2, line 51) teaches the well-known use of recycling metal and halogen waste products in a gas purification multi-stage collector apparatus for the purpose of ensuring an economic operation. It would have been obvious to one having ordinary skill in the art to recycle metal and halogen waste products in the prior art multi-stage collector apparatus in order to facilitate an economic operation as taught by Rasmussen.

(7.) Claims 10-13 are rejected under 35 USC 103(a) as being unpatentable over the prior art as applied to claim 1 above, and further in view of Engstrom et al. The prior art as described above discloses a multi-stage collector apparatus substantially as claimed with the apparent exception of a gasifier or fluidized bed system. In any case, Engstrom et al (note Abstract) teach the well-known use of a gasifier or fluidized bed system in a multi-stage collector system in order to ensure maximum gas purification and for this same reason it would have been obvious to one of ordinary skill in the art to employ such an expedient in the prior art multi-stage collector apparatus described previously above.

(8.) Claims 14, 22, and 23 are rejected under 35 USC 103(a) as being unpatentable over the prior art as applied to claim 1 above, and further in view of Penth et al. The prior art as described above discloses a multi-stage collector apparatus substantially as claimed with the apparent exception of a vanadium oxide catalyst on the barrier filter. Penth et al (note col. 2, line 46 to col. 4, line 50) teach the well-known use of a vanadium oxide catalyst on the barrier filter of a gas purification multi-stage collector for the purpose of maximizing the removal of all unwanted pollutants and for this same reason it would have been obvious to one of ordinary skill in the art to employ such an expedient in the prior art multi-stage collector apparatus described previously above.

(9.) Claim 19 is rejected under 35 USC 103(a) as being unpatentable over the prior art as applied to claim 16 above, and further in view of Pipkorn. The prior art as described above discloses a multi-stage collector apparatus substantially as claimed with the apparent exception of an elliptical barrier filter. Pipkorn (note ref. num. 58, Figs. 2, 3, and col. 1, line 5 to col. 2, line 2) teaches the use of an elliptical barrier filter in a multi-stage collector for the purpose of reducing filter damage and for this same reason it would have been obvious to one of ordinary skill in the art to employ such an expedient in the prior art multi-stage collector apparatus described previously above.

(10.) Claims 27 and 28 are rejected under 35 USC 103(a) as being unpatentable over the prior art as applied to claim 26 above, and further in view of Krigmont ('493). The prior art described above discloses a multi-stage collector apparatus substantially as claimed with the possible exception of both AC and DC electrical potential. Krigmont

('493) teaches the use of both AC and DC potential in a multi-stage collector apparatus for the purpose of assisting collection efficiency (note col. 4, lines 48-65). It would have been obvious to one having ordinary skill in the art to employ both AC and DC electrical potential in the prior art multi-collector apparatus in order to facilitate collection efficiency as taught by Krigmont ('493).

### ***Conclusion***

(11.) The prior art cited but not relied upon is considered pertinent to applicant's disclosure. These references have been cited as art of interest to show other gas cleaning systems.

(12.) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard L. Chiesa whose telephone number is (571) 272-1154.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine R. Copenheaver, can be reached at (571) 272-1156.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is (571) 272-0987.

Facsimile correspondence must be transmitted through (703) 872-9306.

Richard L. Chiesa  
June 21, 2004

*Richard L. Chiesa*

**RICHARD L. CHIESA  
PRIMARY EXAMINER  
ART UNIT 1724**

*June 21, 2004*